

- (iv) incubating the reacted solid phase with a buffer solution comprising an amount of labeled bovine TSH for a sufficient time to occupy essentially all the TSH binding sites of the receptor not occupied by the autoantibodies; and
  - (v) determining the presence and/or amount of the autoantibodies on the basis of the amount of labeled bovine TSH bound to the solid phase;
- wherein the receptor is immobilized to a solid support by a selective antibody against the receptor and washed in an immobilized state.

24. (New) A method for the determination of TSH receptor autoantibodies comprising:

- (i) reacting a solid phase comprising an affinity-purified immobilized recombinant human TSH receptor with a solution prepared from:
    - a) a serum-containing biological sample to be assayed for the presence of said autoantibodies, and
    - b) a buffer solution containing an amount of labeled bovine TSHfor a sufficient time to occupy essentially all the TSH binding sites of the receptor not occupied by the autoantibodies;
  - (ii) separating the solution from a reacted solid phase;
  - (iii) washing the reacted solid phase; and
  - (iv) determining the presence and/or amount of the autoantibody on the basis of the amount of labeled bovine TSH bound to the solid phase;
- wherein the receptor is immobilized to a solid support by a selective antibody against the receptor and washed in an immobilized state.

25. (New) The method according to either claim 23 or claim 24, wherein the solid phase is formed by the walls of test tubes, which are pre-coated with an animal-specific antibody for binding the selective antibody against the receptor.

26. (New) The method according to either claim 23 or claim 24, wherein the selective antibody against the receptor is a monoclonal antibody that recognizes only conformational epitopes of the receptor and is obtained by immunizing an animal with a TSH receptor-DNA construct.

27. (New) The method according to either claim 23 or claim 24, carried out in an automated form, wherein the solid phase comprises suspended particles that are coated with a selective antibody against the receptor, and wherein the receptor and the sample are added in such a way that a solution containing the suspended solid particles and the receptor is temporarily formed.
28. (New) The method according to claim 23, wherein the labeled bovine TSH is added in a serum-free buffer solution.
29. (New) The method according to either claim 23 or claim 24, wherein step (i) is carried out in the presence of at least one antibody against human TSH that does not cross-react with bovine TSH.
30. (New) The method according to either claim 23 or claim 24, wherein the autoantibodies are receptor-stimulating autoantibodies, whose occurrence in a human serum is characteristic of Graves' disease.
- B1  
Cover 31. (New) The method according to either claim 23 or claim 24, wherein the affinity-purified immobilized recombinant human TSH receptor is in the presence of a buffer.
32. (New) The method according to either claim 23 or claim 24, wherein said sample is diluted with a buffer.
-